

**REMARKS**

This is in reply to the non-final Office Action mailed July 2, 2003. Reconsideration and reexamination are respectfully requested in view of the foregoing amendments and the following remarks. Please note that this Amendment and Reply is being filed in accordance with M.P.E.P. Section 1453, for Reissue Applications. For the Examiner's convenience, an Appendix showing the changes made to the previously-added claims is attached, although such an Appendix is not required in the M.P.E.P.

**Non-Consideration of Preliminary Amendment Filed 4/15/03:**

Original claims 1-14 and added claims 15-45 were pending in this reissue application. It is noted that the Office Action does not consider new claims 20-45 that were added by way of a preliminary amendment filed on April 15, 2003, well before the mailing date of the Office Action. A copy of that preliminary amendment, as well as the proof the mailing of that preliminary amendment to the PTO, is included with the amendment and reply, and it is respectfully requested that claims 20-45 be considered by the PTO. Also, it is respectfully requested that any response from the PTO short of a Notice of Allowance be non-final, due to the non-consideration of claims 20-45 in this Office Action.

**Amendments to the Claims:**

By way of the present amendment, Applicants have amended previously-added claims 15, 19, 20 and 34, whereby those claims are shown in all-underlined text in

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conformance with M.P.E.P. 1453 (see Appendix for the changes made to these claims by way of this Amendment and Reply). Therefore, claims 1-45 are presently pending for further consideration.

Support for the added features to the claims may be found in Figures 1-5 of the drawings, and in the description of those drawings in the specification.

**Indication of Allowable Subject Matter in Office Action:**

Applicants appreciate the fact that claims 3, 4, 8, 9 and 11-14 were not rejected over any cited art of record.

**Offer to Surrender:**

The Office Action states that the original ribboned copy of the patent must be received before the reissue application can be allowed, and that an affidavit or declaration as to loss or inaccessibility of the original patent must be filed if that is the case.

Applicants will attempt to obtain the original ribboned copy of the copy, and if found, will be surrendered to the PTO. If not found, an affidavit or declaration will be filed with the PTO.

In any event, in accordance with M.P.E.P. Section 1416, this should not affect the prosecution of this reissue application.

**Oath/Declaration:**

The Office Action states that the oath or declaration is defective. The reasons are set forth on page 1 of the Office Action (numbered section 2).

A substitute oath is being submitted with this reply

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and amendment, which corrects the defects in the declaration filed with the reissue application.

All of the co-inventors except one, Jim C. Williams, have signed the Supplemental Reissue Declaration. Several attempts have been made to reach co-inventor Jim C. Williams, to no avail. Pursuant to the M.P.E.P., a Petition Under 37 C.F.R. 1.47 is submitted herewith, along with an Affidavit of Phillip Articola that documents the attempts made to reach co-inventor Jim C. Williams in order to obtain his signature on the Supplemental Reissue Declaration.

Accordingly, it is submitted that the Supplemental Reissue Declaration submitted concurrently herewith should be entered in order to remove the objection to the previously-filed Reissue Declaration.

**Claim Rejection - 35 U.S.C. § 103(a):**

Claims 15 and 17-19 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,463,656 to Polivka et al. in view of U.S. Patent No. 5,289,272 to Rabowsky et al. Claims 1, 2, 5 and 16 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,463,656 to Polivka et al. and Rabowsky et al., and further in view of U.S. Patent No. 5,495,258 to Muhlhauser. Claims 6, 7 and 10 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Polivka et al., Rabowsky et al., and Muhlhauser, and further in view of U.S. Patent No. 5,583,735 to Pease et al. These rejections are traversed for at least the reasons given below.

In Polivka et al., his receiver 280-1 provides a demuxed signal, as an output of his receiver 280-1, to his control processor 270 (the alleged antenna control means). In the present invention, however, the antenna control means downconverts encoded RF signals provided by the antenna, to provide encoded left hand and right hand circularly polarized RF signals, whereby these encoded left hand and right hand circularly polarized RF signals are then provided, as an output of the antenna control means, to the receiver. Thus, unlike Polivka which has his receiver 280-1 positioned communicatively between his antennas 265R, 266R and his antenna controller (control processor 270), as shown in Figures 3A and 6 of Polivka, the present invention as recited in claim 15 has the "antenna controller" components positioned communicatively between the antenna and the receiver. See, for example, the positioning of antenna 11, antenna interface unit 12 and antenna controller 17, and receiver/decoder 13 in Figure 1 of the drawings, whereby the antenna interface unit 12 and the antenna controller 17 correspond to the claimed antenna controller.

In other words, the antenna controller of claim 15 does not receive downconverted signals so as to use those signals to steer an antenna, but rather it processes status signals (not downconverted signals) derived from the antenna to steer the antenna. This is a major distinction, since Polivka must include some time delay in the downconverting of signals output from the antennas 265R, 266R, prior to those downconverted signals being used by a control processor 270 to steer

the antenna. This time delay may cause inaccurate positioning of the antennas. On the other hand, the antenna controller of the present invention (as recited in claim 15) provides much greater active control of the antenna, since it uses the raw output from the antenna in order to steer the antenna, and thus does not wait for output from the receiver to provide such steering.

Thus, since none of the other cited art of record make up for this deficiency in Polivka et al., claim 15, as well as its dependent claims 16-18, are patentable.

Rabowsky is utilized in the Office Action to disclose a video and audio distribution system, and since Rabowsky does not rectify the above-mentioned shortcomings of Polivka, claims 15-18 are patentable over the combined teachings of Polivka and Rabowsky.

With respect to the rejection of independent claim 19, that claim recites an antenna controller and a downconverter that are both communicatively coupled to a steerable antenna, whereby the downconverter is communicatively disposed between the steerable antenna and a receiver/decoder. See, for example, Figure 2 of the drawings, whereby the downconverter 21 corresponds to the claimed downconverter, and whereby the servo controller 22 and servo power amplifier 23 correspond to the claimed antenna controller. Also, claim 19 has been amended in a manner similar to claim 15, whereby the "time delay" comments with respect to Polivka apply equally as well to claim 19. Accordingly, claim 19 is patentable over the combined teachings of Polivka and Rabowsky.

With respect to the rejection of claims 1, 2, 5 and

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16, this rejection is very similar to one made against claims 1, 2 and 5 in an Office Action mailed February 25, 1997 in the parent application 08/667,222, before the same examiner handling this reissue application. Also, with respect to the rejection of claims 6, 7 and 10, this rejection is very similar to one made against claims 6, 7 and 10 in the Office Action mailed February 25, 1997 in the parent application 08/667,222, before the same examiner handling this reissue application. Applicants' former representative filed a reply on May 22, 1997 (via mail, whereby that reply was received at the PTO on May 27, 1997), which presented arguments which traversed these rejection, whereby those arguments were accepted by the examiner, thereby resulting in an allowance of that application. Those arguments, which still apply as strongly as they did in 1997, are presented again in this reply. The only difference is that the current rejections include Rabowsky, but since Rabowsky is used only for a particular purpose (to show an audio and video distribution system), and since Rabowsky does not rectify the shortcomings of the other cited references (to be discussed in detail below), those previously-presented arguments still apply, and are presented below between the quotation marks ("").

"The Polivka et al. patent discloses a system that permits a reduction in the size of a phased array antenna used for satellite communication on an aircraft. This is achieved by using video bandwidth compression, spread spectrum waveform processing, forward error correction coding and circular aperture phased array antenna technology. Television programming is

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transmitted from a TV broadcast satellite to a ground station, and it thereafter uplinked to a relay satellite and retransmitted for reception on an aircraft. With reference to Fig. 3a cited by the Examiner, it shows the portion of the system that is onboard the aircraft. This portion of the system includes a phase array antenna, a receiver and a video reconstruction unit that distributes the video signal to video monitors onboard the aircraft."

"The transmission link from the relay satellite to the aircraft uses linear polarization (column 11, in the paragraph starting at line 44) and which is aligned using a monopulse receiver. There is no disclosure or suggestion that the monopulse receiver could be used to track left and right handed circularly polarized signals. Furthermore, there is no disclosure or suggestion contained in the Polivka et al. patent regarding downconverting the received RF signals to provide left and right hand circularly polarized RF signals, a fact that is admitted by the Examiner. The Muhlhauser et al. patent is cited as disclosing a satellite receiver system comprising an antenna for receiving both left and right handed circular polarized RF signals. The Examiner stated that a downconverter is inherently present [in Muhlhauser et al. system] for frequency converting the RF signals. However, contrary to the Examiner's position, it is respectfully submitted that the Muhlhauser et al. patent only discloses an antenna system, and does not disclose or suggest anything regarding processing of the signals output by the antenna system."

"Claim 1 calls for 'antenna control means . . . for downconverting the received RF signals to provide left hand and right hand circularly polarized RF signals that correspond to a plurality of television channels'. This recited aspect is not disclosed or suggested by the cited references, absent hindsight reconstruction using the teachings of the cited references in light of Applicants' own teachings. Furthermore, there is absolutely no disclosure or suggestion contained in the cited references regarding how one would combine them to provide the present invention. In the Polivka et al. system, the downlink transmission channel is a Ku-band channel that uses linear polarization that is tracked by the monopulse receiver, and there is no disclosure or suggestion regarding tracking circularly polarized signals of any sort."

"Therefore, it is respectfully submitted that antenna control means for downconverting the received RF signals to provide left hand and right hand circularly polarized RF signals that correspond to a plurality of television channels is not disclosed or suggested by the [sic] either of the cited patent, taken singly or together. Accordingly, it is respectfully submitted that Claim 1 is not obvious in view of Polivka et al. and Muhlhauser et al. patents, taken singly or together. Therefore, in view of the above, withdrawal of the Examiner's rejection of Claim 1 is respectfully requested."

"Claims 2 and 5 are considered patentable based upon the patentability of Claim 1. Furthermore, it is respectfully submitted that the details of the



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receiver/decoder recited in Claim 5 are not disclosed or suggested by either the Polivka et al. or Muhlhauser et al. patents. Accordingly, and in view of the above, withdrawal of the Examiner's rejection of Claims 2 and 5 is respectfully requested."

"Claims 6, 7 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Polivka and Muhlhauser patents, and further in view of US Patent No. 5,583,735 issued to Pease et al. The Pease et al. patent is cited as disclosing overhead monitors mounted through the aircraft."

"Independent Claim 6 contains substantially the same recitation as independent Claim 1, and is considered patentable for the same reasons argued above with regard to Claim 1. Claims 7 and 10 are considered patentable based upon the patentability of Claim 6. Furthermore, it is respectfully submitted that the details of the receiver/decoder recited in Claim 10 are not disclosed or suggested by the Polivka et al., Muhlhauser et al. or Pease et al. patents. Accordingly, and in view of the above, withdrawal of the Examiner's rejection of Claims 7 and 10 is respectfully requested."

**Claims 20-45 Added by way of Preliminary Amendment:**

With respect to the claims 20-45 added by way of the preliminary amendment filed April 15, 2003, independent claims 20 and 34 have been amended in a manner similar to the amendments made to claims 15 and 19, and thus the comments provided above with respect to claims 15 and 19 apply just as well to claims 20-45. Accordingly, claims 20-45 are also patentable over the

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cited art of record.

**Conclusion:**

In view of the foregoing, it is respectfully submitted that the pending claims are patentable and that the present application is in condition for allowance.

Respectfully submitted,

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Date

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Appendix Which Explicitly Shows Changes Made to  
Previously-Added Claims by way of this Amendment and  
Reply:

15. (Twice Amended) A satellite television system that provides television programming to passengers on an aircraft derived from at least one satellite, said system comprising:

a video and audio signal distribution system disposed on the aircraft, the video and audio signal distribution system being configured to distribute video and audio signals to the passengers on the aircraft;

a steerable antenna that is capable of being steered towards the at least one satellite in response to control signals supplied thereto;

an antenna controller that is coupled to the steerable antenna, the antenna controller being configured to provide the control signals to the steerable antenna, to steer the steerable antenna so that the steerable antenna is locked onto RF signals transmitted by the at least one satellite, and to downconvert the RF signals to provide downconverted RF signals that correspond to a plurality of programming channels, the control signals provided to the steerable antenna being based directly on information obtained from the RF signals output by the steerable antenna; and

a receiver/decoder that is coupled to the antenna controller and to the video and audio signal distribution system, the receiver/decoder being configured to process the downconverted RF signals to provide video and audio signals corresponding to the plurality of programming channels, and to output the

video and audio signals to the video and audio signal distribution system which distributes the plurality of programming channels in real time to the passengers.

19. (Twice Amended) A satellite television system that provides television programming to passengers on an aircraft derived from at least one satellite, said system comprising:

a video and audio signal distribution system disposed on the aircraft, the video and audio signal distribution system being configured to distribute video and audio signals to the passengers on the aircraft;

a steerable antenna that is capable of being steered towards the at least one satellite in response to control signals supplied thereto;

an antenna controller that is coupled to the steerable antenna, the antenna controller being configured to provide the control signals to the steerable antenna, to steer the steerable antenna so that the steerable antenna is locked onto RF signals transmitted by the at least one satellite, the control signals provided to the steerable antenna being based directly on information obtained from the RF signals output by the steerable antenna;

a downconverter that is coupled to the antenna controller and that downconverts the RF signals to provide downconverted RF signals that correspond to a plurality of programming channels; and

a receiver/decoder that is coupled to the downconverter and to the video and audio signal distribution system, the receiver/decoder being

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configured to process the downconverted RF signals to provide video and audio signals corresponding to the plurality of programming channels, and to output the video and audio signals to the video and audio signal distribution system which distributes the plurality of programming channels in real time to the passengers.

20. (Amended) A system that provides video or audio to passengers on an aircraft, the video or audio being obtained from satellite-transmitted signals, the system comprising:

a steerable antenna that is capable of being steered towards the at least one satellite in response to control signals supplied thereto;

an antenna controller that is coupled to the steerable antenna, the antenna controller being configured to provide the control signals to the steerable antenna, to steer the steerable antenna so that the steerable antenna is locked onto RF signals transmitted by at least one satellite, and to downconvert the RF signals to provide downconverted RF signals that correspond to a plurality of video or audio channels, the control signals provided to the steerable antenna being based directly on information obtained from the RF signals output by the steerable antenna; and

a receiver/decoder that is coupled to the antenna controller and which is configured to process the downconverted RF signals to provide video or audio signals corresponding to the plurality of video or audio channels, for distribution of the video or audio to the passengers.

34. (Amended) A system that provides video or audio to passengers on an aircraft, the video or audio being obtained from satellite-transmitted signals, the system comprising:

a steerable antenna that is capable of being steered towards at least one satellite in response to control signals supplied thereto;

an antenna controller that is coupled to the steerable antenna, the antenna controller being configured to provide the control signals to the steerable antenna, to steer the steerable antenna so that the steerable antenna is locked onto RF signals transmitted by the at least one satellite, the control signals provided to the steerable antenna being based directly on information obtained from the RF signals output by the steerable antenna;

a downconverter that is coupled to the antenna controller and that downconverts the RF signals to provide downconverted RF signals that correspond to a plurality of video or audio channels; and

a receiver/decoder that is coupled to the antenna controller and which is configured to process the downconverted RF signals to provide video or audio signals corresponding to the plurality of video or audio channels, for distribution of the video or audio to the passengers.